

Louena Shtrepi

18.10.1986

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DENERG, Politecnico di Torino

C.so Duca degli Abruzzi 24

10129, Torino, Italy

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Current position (since 02.2017)

*Post-doc research fellow “ACOUSTICS 4 Healthy Environments And Living
Throughout life”*

*Department of Energy, Politecnico di Torino, Corso Duca degli Abruzzi, 24 - 10129
Torino, ITALY*

Education and training

2012-2015

PhD in Metrology: Measuring Science and Technique

Topic: Measurement traceability of sound scattering coefficient of diffusive surfaces used in room acoustics and virtual acoustical environments

Politecnico di Torino, Corso Duca degli Abruzzi, 24 - 10129 Torino, ITALY

Tutors: prof. Arianna Astolfi, Giulio Barbato, Monika Rychtáriková

04.2013-07.2013

Visiting researcher

Research on scattering coefficient and acoustic diffusion measurements.

K.U. Leuven, Acoustics and Thermal Physics Section, Celestijnenlaan 200d – box 2416, 3001 Leuven, BELGIUM

Tutor: prof. Monika Rychtáriková

2008-2011

MSc at the First School of Architecture, master Construction

Politecnico di Milano, Piazza Leonardo da Vinci, 32 - 20133 Milano, ITALY

Politecnico di Torino, Corso Duca degli Abruzzi, 24 - 10129 Torino, ITALY

Double degree for Master of science (110/110 cum Laude)

Tutors: prof. Arianna Astolfi, Monika Rychtáriková, and Renzo Vitale

02.2011-06.2011

Visiting student

Master thesis research on scattering coefficient implementation by different algorithms in different Geometric Acoustic based software.

Aachen University, Institute of Technical Acoustics, 52056 Aachen, Germany

Tutor: Michael Vorländer Monika Rychtáriková, and Renzo Vitale

2008-2010

Graduated at the ASP: Alta Scuola Politecnica Milan-Turin, two years multidisciplinary course.

Politecnico di Milano, Piazza Leonardo da Vinci, 32 - 20133 Milano, ITALY

Politecnico di Torino, Corso Duca degli Abruzzi, 24 - 10129 Torino, ITALY

ASP diploma

2005-2008

BSc at the First School of Architecture, bachelor Architecture Sciences.

Politecnico di Torino, Corso Duca degli Abruzzi, 24 - 10129 Torino,
ITALY

Bachelor of science degree (110/110 cum Laude)

Tutors: prof. Arianna Astolfi

Work experience

- 12.2014- PRESENT** Co-founder of an innovative start-up in the medical sector of voice care devices
PR.O. Voice s.r.l, C.so Castelfidardo 30/a 10129 Torino
www.provoicesrl.com
- 07.2013** Project for the improvement of the acoustic quality of the offices of **Ufficio Pio**.
Ufficio Pio, Compagnia di San Paolo, Corso Ferrucci, 3-10138 Torino, ITALY
Architect and acoustic consultant
- 02.2012-03.2012** Acoustic consultant for the design contest "A New Auditorium in Acilia-Dragona, Rome",
(Honorable Mention)
www.europaconcorsi.com/projects/211358-Nuovo-Auditorium-di-Acilia-Dragona
Federico Bistolfi, Fanstudio, Architecture Atelier, Vicolo Moroni 30, 00153 Roma,
ITALY
External consultant
- 09.2011-01.2012** Assisting in the designing process of different type of projects like construction of new
buildings and restoration of existing ones, Cad operator for drawings in the appropriate
scales, building site visits and inspections.
Studio Durbiano Reinerio Architetti, Via Baretti, 46 - 10125 Torino, ITALY
Architecture and Design Atelier, External consultant.
- 09.2011** RND: Implementation of a new acoustic software: Acusoftware Fresia Alluminio S.p.a.
www.fresialluminio.it Research in acoustics and application of acoustical standards
requirements on windows acoustic insulation.
ONLECO s.r.l. via Pigafetta, 3 Torino, ITALY,
Research and consultancy company in acoustics, sustainable buildings, energy, air
conditioning and lighting.
- 2011** Design students Competitions, Vienna House of Music. Project: Catch the Moon.
Projects chosen as finalists by ArchMedium jury.
ArchMedium, students Competitions <http://en.archmedium.com/>
http://en.archmedium.com/Concursos/End_VHOM/Results.php.
- 09.2010-12.2010** Assisting in the designing process of different type of projects like construction of new
buildings and restoration of existing ones, Cad operator for drawings in the appropriate
scales, building site visits and inspections.
Studio Durbiano Reinerio Architetti, Via Baretti, 46 - 10125 Torino, ITALY
Architecture and Design Office
- 07.2009** Assisting in the designing process of different type of acoustic projects.
ONLECO s.r.l. via Pigafetta, 3 Torino, ITALY,
Research and consultancy company in acoustics, sustainable buildings, energy, air
conditioning and lighting.

Teaching experience

- 02.2016- PRESENT** **Adjunct professor**
Course *Exhibit design*, Bachelor-level in Design And Visual Communication.
Politecnico di Torino, Corso Duca degli Abruzzi, 24 - 10129 Torino, ITALY
- 01.2015-PRESENT** **Assistant Lecturer**
Course *Sound Engineering*, supervised by prof. Marco Masoero for the Master program
in *Cinema and Media Engineering*.

- 10.2012- PRESENT** **Politecnico di Torino**, Corso Duca degli Abruzzi, 24 - 10129 Torino, ITALY
Assistant Lecturer
Course *Technical physics of environment* supervised by prof. Arianna Astolfi.
- 10.2012- PRESENT** **Politecnico di Torino**, Corso Duca degli Abruzzi, 24 - 10129 Torino, ITALY
Assistant Lecturer
Course *Acoustics and lighting in building design*, supervised by prof. Arianna Astolfi and prof. Anna Pellegrino.
- 02.2014** **Politecnico di Torino**, Corso Duca degli Abruzzi, 24 - 10129 Torino, ITALY
Lecturer
Building Acoustics lectures in the course *Green Building-Implants*
- 01.2012** **Forte Chance**, Via Avellino 6, 10144, Torino
Assistant Lecturer
Courses *Building Physics* and *Environment controlling techniques*, supervised by prof. Chiara Aghemo.
- 02.2010-06.2010** **Politecnico di Torino**, Corso Duca degli Abruzzi, 24 - 10129 Torino, ITALY
Part-time collaboration
Assisting students in their designing work in *Design workshop*, supervised by prof. Luca Reinerio.
- Politecnico di Torino**, Corso Duca degli Abruzzi, 24 - 10129 Torino, ITALY

Personal skills and competences

Mother tongue Albanian

Other languages

High Italian, English
Basic Spanish, German, Flemish

Software

I have an excellent knowledge of acoustic prediction software such as **Odeon**, **Catt-Acoustic**, **Raven**; acoustic measurement and signal processing software such as **Dirac**, **CoolEdit**, **Adobe Audition**.

Other software: **Autocad 2D and 3D modeling**, **Adobe Photoshop**, **Illustrator**, **InDesign**, **3D Studio Max**, **Sketch Up**, **Dialux** (lightning calculations), **Ecotect** (lightning, energy and acoustics calculations), **Matlab** (programming).

Statistical analyses software: **Minitab and SPSS**

Other interests Sports, arts, and foreign languages and cultures.

Honours and awards

2015 **Newman Medal 2015**
PhD thesis honor for excellence in the study of architectural acoustics.
Newman Student Award Fund and The Acoustical Society of America (ASA), <http://www.newmanfund.org/>

2013 **ISRA Best Papers Award 2013**
Best Papers Award at The International Symposium in Room Acoustics (ISRA 2013)
The Acoustical Society of America (ASA), **the International Commission on Acoustics (ICA)**, and **ARUP**, <http://www.caa-aca.ca>

2013 **Premio Italo Barducci 2013**
Young Scientist Conference Attendance Grants based on the paper presentation for AIA-DAGA 2013
Associazione Italiana di Acustica, www.associazioneitalianadiacustica.it

- 2012 Premio Amedeo Giacomini 2012**
Best master degree thesis on acoustics, 2012
Associazione Italiana di Acustica, www.associazioneitalianadiacustica.it
- 2012 EEA Best Paper and presentation Award 2012**
Excellent presentation of the paper at Euronoise 2012, sponsored by Head Genuit Foundation
European Acoustics Association, www.eaa-fenestra.org
- 2012 Young Scientist Grant for Inter-Noise 2012**
Young Scientist Conference Attendance Grants based on the paper presentation for INTERNOISE 2012
International Institute of Noise Control Engineering, www.i-ince.org
- 2011 Honors Theses 2011**
Acknowledgment based on the thesis presentation at the First School of Architecture: Master of Science in Architecture (Construction), July 2011.
Politecnico di Torino, Corso Duca degli Abruzzi, 24 - 10129 Torino, ITALY, <http://www.architesi.polito.it>
- 2009 Premio Optime 2008/2009**
Acknowledgment for being one of the best graduated students of the academic year 2008/2009.
Unione Industriale Torino, Via Manfredo Fanti, 17 - 10128 Torino, ITALY
Università degli Studi di Torino, Via Verdi, 8 - 10124 Torino, ITALY
Politecnico di Torino, Corso Duca degli Abruzzi, 24 - 10129 Torino, ITALY

Laboratory experience

- 2012-PRESENT** Management of the construction and development of the laboratory for acoustic scattering measurements (1:1 and 1:5 scale reverberation room) at Politecnico di Torino.

Research Projects

- 2016-PRESENT** Optimization of sound insulation through innovative concrete walls produced by CEMEX (<http://www.cemex.com/>). Coordinator: Prof. Arianna Astolfi
- 2015-PRESENT** Noise and vibration risk assessment in industrial working environments (ILVA, Taranto). Coordinator: Prof. Marco Masoero
- 2015-PRESENT** Noise and vibration risk assessment in audiovisual working environments (RAI, Torino). Coordinator: Prof. Marco Masoero
- 2012-PRESENT** Sound scattering surfaces (optimization of sound diffusers position and extension in performance spaces, classrooms, listening rooms etc). Coordinator: Prof. Arianna Astolfi
- 2012-2014** Designing and building innovative systems for dry mounting façades with high energetic and acoustic performance in order to lower the building time construction, costs, maintenance and management (Project INTESA). Coordinator: Prof. Arianna Astolfi

Commissions of Trust

Reviewer for the **6th International Building Physics Conference (IBPC 2015)**
<http://www.ibpc2015.org>

Reviewer for the for the international journal **PLOSone**
<http://www.journals.plos.org/>

Reviewer for the international journal **Sustainable Cities and Society**
<http://www.journals.elsevier.com/sustainable-cities-and-society/>

Workshops

05.2015

“Laboratory of design, construction and characterization of acoustical and electroacoustical music instruments”, invited lecturer Jean-François Laporte.

Organizers: Marco Masoero, [Louena Shtrepi](#), Andrea Prato (Politecnico di Torino), Stefano Bassanese (Scuola di Musica Elettronica, Conservatorio di Torino)

Papers and publications

Book chapters

C. Calleri, [L. Shtrepi](#), A. Astolfi, A. Armando, Investigations on the Influence of Auditory Perception on Urban Space Design through Virtual Acoustics. *Chapter in the Handbook of Research on Perception-Driven Approaches to Urban Assessment and Design*. ISBN 152253637X, (2018), pp. 641

A. Astolfi, P. Orecchia, E. Bo, [L. Shtrepi](#), C. Calleri, F. Aletta, Influence of soundscapes on perception of Safety and Social Presence in an Open Public Space. *Chapter in the Handbook of Research on Perception-Driven Approaches to Urban Assessment and Design*. ISBN 152253637X, (2018), pp. 641

C. Occhiena, C. E. Nadim, A. Astolfi, G. E. Puglisi, [L. Shtrepi](#), C. Bouffier, M. Pirulli, J. De Rosny, P. Bigarré, C. Scavia, (2015) *Acoustic monitoring of underground instabilities in an old limestone quarry*. In: G. Lollino, D. Giordan, K. Thuro, C. Carranza-Torres, F. Wu, P. Marinos, C. Delgado, *Engineering Geology for Society and Territory*, Springer, Switzerland, pp. 689-694. doi: 10.1007/978-3-319-09060-3_123, ISBN 978-3-319-09060-3

Journal articles

[L. Shtrepi](#), A. Astolfi, G. E. Puglisi, M. Masoero, (2017) *Effects of the distance from a diffusive surface on the objective and perceptual evaluation of the sound field in a small simulated variable-acoustics hall*. *Applied Science* 224 (7), 1-23 (2017). doi:10.3390/app7030224

S. Secchi, A. Astolfi, G. Calosso, D. Casini, G. Cellai, F. Scamoni, C. Scrosati, [L. Shtrepi](#), *Effect of outdoor noise and façade sound insulation on indoor acoustic environment of Italian schools*. *Applied Acoustics*, Vol. 126, 120-130 (2017) doi.org/10.1016/j.apacoust.2017.05.023

D. Dal Palù, Doriana; B. Lerma, L. Actis Grosso, [L. Shtrepi](#), M. Gasparini, C. De Giorgi, A. Astolfi, Sensory evaluation of the sound of rolling office chairs: An exploratory study for sound design. *Applied Acoustics*, 130:C(2018), pp. 195-203. ISSN 0003-682X.

[L. Shtrepi](#), A. Astolfi, G. D'Antonio, M. Guski, (2016) *Objective and perceptual evaluation of distance-dependent scattered sound effects in a small variable-acoustics hall*. *Journal of the Acoustical Society of America*, 140 (3), 3651-3662 (2016). doi: 10.1121/1.4966267

[L. Shtrepi](#), A. Astolfi, G. D'Antonio, G. Vannelli, G. Barbato, S. Mauro, A. Prato, (2016) *Accuracy of the random-incidence scattering coefficient measurement*. *Applied Acoustics* 106, 23-35. doi: 10.1016/j.apacoust.2015.12.021

C. Calleri, A. Astolfi, A. Armando, [L. Shtrepi](#), (2015) *On the ability to correlate perceived sound to urban space geometries*, *Sustainable Cities and Society*, 27, 346-355 (2016). doi:10.1016/j.scs.2016.05.016

[L. Shtrepi](#), S. Pelzer, R. Vitale, M. Rychtáriková, A. Astolfi, (2015) *Objective and perceptual assessment of the scattered sound field in a simulated concert hall*. *Journal*

of the Acoustical Society of America 138 (3),1485-1497. doi: 10.1121/1.4929743

E. Bo, A. Astolfi, A. Pellegrino, G. E. Puglisi, L. Shtrepi, M. Rychtarikova, D. Pelegrin-Garcia, (2015) *The modern use of ancient theatres related to acoustic and lighting requirements: stage design guidelines for the Greek theatre of Syracuse*. Energy & Buildings 95, 106-115. doi: 10.1016/j.enbuild.2014.12.037

C. Calleri, L. Rossi, A. Astolfi, A. Armando, L. Shtrepi, F. Bronuzzi (2015), *Drawing the City with the Ears. Urban Spaces Comprehension and Design through Auditory Perception*, Energy Procedia 78, pp. 19-24.

L. Shtrepi, A. Astolfi, and M. Rychtáriková, (2014) *Influence of a volume scale factor on the scattering coefficient effects on the prediction of room acoustic parameters*. Building Acoustics 21 (2), 153-166. doi:10.1260/1351-010X.21.2.153

T. Echenagucia, M. Sassone, A. Astolfi, L. Shtrepi, A. Van Der Harten, (2014) *EDT, C80 and G Driven Auditorium Design*. Building Acoustics 21 (1), pp. 43-54. doi: 10.1260/1351-010X.21.1.43

L. Shtrepi, S. Pelzer, M. Rychtáriková, and A. Astolfi, (2012) *Influence of scattering coefficient on the prediction of room acoustics parameters in a virtual concert hall*. Akustika 17 (1), pp. 27-29. ISSN 1801-9064

L. Shtrepi, S. Pelzer, M. Rychtáriková, R. Vitale, A. Astolfi, and M. Vorländer, (2012) *Objective and subjective assessment of scattered sound in a virtual acoustical environment simulated with three different algorithms*. In: Rivista Italiana Di Acustica, vol. 36 n. 4, pp. 33-40. ISSN 0393-1110

Conference proceedings

A. Astolfi, G. E. Puglisi, A. Prato, L. Shtrepi, B. Sacchetti, T. Sacco (2016), *Need of good classroom acoustics since the early childhood*. ASA/ASJ meeting, 28 November - 2 December 2016, Honolulu (USA).

E. Bo, E. Kostara, F. Lepore, G. E. Puglisi, L. Shtrepi, N. Barkas, B. Mangano, F. Mangano, A. Astolfi, (2016) *Acoustic characterization of the ancient theatre of Tyndaris: evaluation and proposal for its reuse*. 23rd International Congress on Sound and Vibration (ICSV23), 10-14 Luglio, 2016, Athene, (Gr).

E. Bo, L. Shtrepi, G. E. Puglisi (2016) *Archeoacustica: Innovazioni tecnologiche per la riscoperta del teatro antico*. 43° Convegno Nazionale AIA, 25-27 Maggio, 2016, Alghero (IT)

L. Shtrepi, A. Astolfi, M. Rychtáriková, M. Guski, G. D'Antonio, (2015) *Objective and perceptual evaluation of sound diffusion from a diffusive lateral wall in a small performance space*, 9th International Conference on Auditorium Acoustics 2015, Paris (FR).

L. Shtrepi, F. Cravero, S. Di Blasio, A. Astolfi, M. Rychtáriková, M. Guski, (2015) *Influence of diffusive surface position and extension on the acoustics of a small concert hall*, 9th International Conference on Auditorium Acoustics 2015, Paris (FR).

C. Calleri, L. Rossi, A. Astolfi, A. Armando, L. Shtrepi, F. Bronuzzi, (2015) *Drawing the city with the ears. Urban spaces comprehension and design through auditory perception*, 6th International Building Physics Conference, IBPC 2015, Turin (IT).

E. Bo, L. Shtrepi, D. Pelegrin-Garcia, G. Barbato, A. Astolfi, *Acoustical measurements in ancient theatres: uncertainty in prediction models*, 1st International Conference of Metrology for Archaeology, Volume 1, 106-111, 21-23 Ottobre, 2015, Benevento (IT).

E. Bo, L. Shtrepi, D. Pelegrin-Garcia, M. Rychtarikova, A. Astolfi, *Perceptual comparison of two different simulation algorithms applied on the example of an open-air theatre*. 9th International Conference on Auditorium Acoustics 2015, Paris (FR).

L. Shtrepi, L. Pavese, (2014) *Effetto delle riflessioni diffuse sulla risposta all'impulso in un ambiente semianecoico*. In *Proceedings of AIA Conference on Acoustics*, 17-19 June 2014, Pisa (IT).

A. Schiavi, L. Shtrepi, D. Corona (2014) *Definizione di un modello geometrico per la determinazione della porosità effettiva e della tortuosità in mezzi fibrosi*, In *Proceedings of AIA Conference on Acoustics*, 17-19 June 2014, Pisa (IT).

L. Shtrepi, A. Astolfi, M. Rychtáriková, L. Pavese, (2014) *Study on the effects of the acoustic scattering on the impulse response in a semi-anechoic room*. In *Proceedings of the 7th Forum Acusticum 2014*, Krakow, 7-12 September 2014, Krakow (PL).

T. Echenagucia, M. Sassone, A. Astolfi, L. Shtrepi, A. Van Der Harten, (2014) *Multi-Objective Acoustic and Structural design of shell structures for concert halls*. In *Proceeding of the 2014 Symposia of the International Association for Shells and Spatial Structures*, 15-19 September, Brasilia (BR).

E. Bo, A. Astolfi, L. Shtrepi, M. Rychtarikova, D. Pelegrin-Garcia, G. Genta, (2014) *The acoustic influence of the scenery on the audience sound perception: the case of the ancient theatre of Syracuse*. In *Proceedings of 7th Forum Acusticum 2014*, 7-12 September 2014, Krakow (PL). **(invited)**

C. Occhiena, C. E. Nadim, A. Astolfi, G. E. Puglisi, L. Shtrepi, C. Bouffier, M. Pirulli, J. De Rosny, P. Bigarré, C. Scavia, (2014) *Acoustic monitoring of underground instabilities in an old limestone quarry*. In *Proceedings of XII Congress of the International Association of Engineering Geology and the Environment*, 15-19 September 2014, Turin (IT), pp. 689-693.

C. Occhiena, M. Pirulli, C. Scavia, A. Astolfi, G. E. Puglisi, L. Shtrepi, C. E. Nadim, P. Bigarré, (2014) *Detection of underground instabilities in an old limestone quarry through acoustic monitoring*. In *Proceedings of EUROCK 2014, ISRM European Regional Symposium*, 27-29 May 2014, Vigo (SP), pp. 609-612.

L. Shtrepi, S. Pelzer, M. Rychtáriková, R. Vitale, A. Astolfi, and M. Vorländer, (2013) *Subjective assessment of scattered sound in a virtual acoustical environment simulated with three different algorithms*. In *Proceedings of ISRA 2013*, 9-11 June 2013, Toronto (CA). **(invited)**

L. Shtrepi, A. Astolfi, and M. Rychtáriková, (2013) *Influence of a volume scale factor on the scattering coefficient effects on the prediction of room acoustic parameters*. In *Proceedings of ISRA 2013*, 9-11 June 2013, Toronto (CA). **(invited, poster)**

L. Shtrepi, A. Astolfi, M. Rychtáriková, (2013) *Influence of a volume scale factor on the scattering coefficient effects on the prediction of room acoustic parameters*. In *Proceedings of AIA-DAGA 2013, Conference on Acoustics*, EAA Euroregio, 8-21 March 2013, Merano (IT).

A. Schiavi, L. Shtrepi, (2013) *Ergun-Wu equation: a novel approach for the determination of physical parameters in low/medium porosity materials*. In *Proceedings of AIA-DAGA 2013, Conference on Acoustics*, EAA Euroregio, 8-21 March 2013, Merano (IT).

T. Echenagucia, A. Astolfi, M. Sassone, L. Shtrepi, and A. Van Der Harten, (2013) *NURBS and Mesh geometry in Room Acoustic Raytracing Simulation*. In *Proceedings of AIA-DAGA 2013, Conference on Acoustics*, EAA Euroregio, 8-21 March 2013, Merano (IT).

T. Echenagucia, M. Sassone, A. Astolfi, L. Shtrepi, A. Van Der Harten (2013) *EDT, C80 and G driven auditorium design*. In *Proceedings of ISRA 2013*, 9-11 June 2013, Toronto (CA).

T. Echenagucia, M. Sassone, A. Astolfi, L. Shtrepi, A. Van Der Harten (2013) *Interactive Design Methods for Complex Curved Reflectors in Concert Halls*. In *Proceedings of ISRA 2013*, 9-11 June 2013, Toronto (CA).

L. Shtrepi, S. Pelzer, M. Rychtáriková, R. Vitale, A. Astolfi, and M. Vorländer, (2012) *Objective and subjective assessment of scattered sound in a virtual acoustical environment simulated with three different algorithms*. In *Proceedings of INTERNOISE 2012*, 19-22 August 2012, New York City (USA). **(invited)**

L. Shtrepi, S. Pelzer, M. Rychtáriková, A. Astolfi, and M. Vorländer., (2012) *Influence of scattering coefficient on the prediction of room acoustic parameters in a virtual concert hall through three different algorithms*. In *Proceedings of EURONOISE 2012*, Ninth European Conference on Noise Control, 10-13 June 2012, Prague (CZ). 1116-1120.

L. Shtrepi, S. Pelzer, M. Rychtáriková, R. Vitale, A. Astolfi, and M. Vorländer (2012) *Valutazione oggettiva della diffusione sonora in un ambiente acustico virtuale simulato con tre diversi software*. In *Proceedings of 39° Convegno Nazionale dell'Associazione Italiana di Acustica, AIA 2012*, 4-6 Luglio, Roma (IT). **(invited)**

T. Mendez Echenagucia, A. Astolfi, M. Sassone, L. Shtrepi, and A. Van Der Harten, (2012) *Esplorazione Multi Obiettivo nella Progettazione Acustica Architettonica*. In *Proceedings of 39° Convegno Nazionale dell'Associazione Italiana di Acustica, AIA 2012*, 4-6 Luglio, Roma (IT).

L. Shtrepi, S. Pelzer, M. Rychtáriková, and A. Astolfi, *Influence of scattering coefficient on the prediction of room acoustics parameters in a virtual concert hall*. In *Proceedings of the 6th International Conference Material – Acoustics – Place 2011*, September 12 - 14, Zvolen (SK).

Torino, 19/02/2018

A handwritten signature in black ink, appearing to read 'L. Shtrepi', written in a cursive style.